

In the claims:

1. (Currently Amended) A method used within a voice over packet network telephone for processing packets exchanged over a packet network having data packets and voice packets comprising the steps of:

receiving data packets from a plurality of data processing devices;

assigning a first priority level to the voice packets, a second priority level to data packets from a first data processing device of the plurality of data processing devices and a third priority level to data packets from a second data processing device of the plurality of data processing devices where the first, second and third priority levels are all different;

determining whether the data packets need to be divided into smaller data packets, dividing the data packets into divided data packets if determined to be needed and interspersing the divided data packets among the voice packets; and

sending the data packets, including the smaller data packets if divided, and the voice packets to a communications network based upon the respective priorities of the voice packets and the data packets.

2. (Original) The method of claim 1 wherein the step of determining further comprises comparing the data packets to a size threshold and determining that the data packets are to be divided if the data packets are larger than the size threshold.

3. (Original) The method of claim 1 wherein the divided data packets are of equal size.

4. (Original) The method of claim 1 wherein the divided data packets are of unequal size.

5. (Currently Amended) The method of claim 1 wherein the first and second data processing device further comprises devices selected from the group consisting of a computer, a laptop computer, a personal digital assistant, and or a cellular telephone.

6. (Original) The method of claim 1 wherein the voice packets have a higher priority than the data packets from the data processing device.

7. (Original) The method of claim 6 wherein the higher priority voice packets are processed before the data packets.

8. (Original) The method of claim 1 wherein each data packet and each voice packet is assigned a priority corresponding to the order in which the packet is processed.

9. (Original) The method of claim 8 wherein priority comprises a level of preferences.

10. (Original) The method of claim 1 wherein the communications network comprises one of a frame relay network, Asynchronous Transfer Mode network, and Internet Protocol network.

11. (Original) The method of claim 1 wherein the communication network adheres to Ethernet protocols.

12. (Original) The method of claim 1 wherein the step of receiving is performed by a first Ethernet transceiver.

13. (Original) The method of claim 1 wherein the step of sending is performed by a second Etbernet transceiver.

14. (Original) The method of claim 1 wherein the step of receiving and the step of sending is performed by the same Ethernet transceiver.

15. (Currently Amended) A method for processing data packets exchanged over a packet network having data packets and voice packets comprising the steps of:

receiving data packets from a plurality of data processing devices;

assigning a first priority level to the voice packets, a second priority level to data packets from a first data processing device of the plurality of data processing devices and a third priority level to data packets from a second data processing device of the plurality of data processing devices, where the first, second and third priority levels are all different;

determining whether the data packets need to be divided into smaller data packets, dividing the data packets into divided data packets if determined to be needed and interspersing the divided data packets among the voice packets;

assigning a higher priority to the voice packets than the data packets, including the smaller data packets if divided; and

sending the data packets, including the smaller data packets if divided, and the voice packets to a communications network based upon the respective priorities of the voice packets and data packets.

16. (Original) The method of claim 15 wherein the step of determining further comprises comparing the data packets to a size threshold and determining that the data packets are to be divided if the data packets are larger than the size threshold.

17. (Currently Amended) The method of claim 15 wherein the first and second data processing device further comprises one of the group consisting of a computer, a laptop computer, a personal digital assistant, and a cellular telephone.

18. (Original) The method of claim 15 wherein the communications network comprises one of a frame relay network, Asynchronous Transfer Mode network, and Internet Protocol network.

19. (Original) The method of claim 15 wherein the communications network adheres to Ethernet protocols.

20. (Currently Amended) A method for processing data packets exchanged over a packet network having data packets and voice packets comprising the steps of:

receiving data packets from a communications network;

separating the data packets from the communications network into data packets destined for a phone and data packets not destined for the phone destined for a first or a second data processing device interconnected with the packet network through the phone; and

assigning a higher priority to the data packets destined for the phone and first and second lower priorities to data packets destined for the first and second data processing devices, where the higher priority of the phone and the first and second lower priorities for the first and second data processing devices are all different.

21. (Original) The method of claim 20 further comprising the step of determining whether the data packets not destined for the phone need to be divided into smaller data packets not destined for the phone, dividing the data packets not destined for the phone into divided data packets not destined for the phone if determined to be needed and interspersing the divided data packets not destined for the phone among the data packets destined for the phone.

22. (Original) The method of claim 21 wherein the step of determining further comprises comparing the data packets not destined for the phone to a size threshold and determining that the data packets not destined for the phone are to be divided if the data packets not destined for the phone are larger than the size threshold.

23. (Original) The method of claim 21 wherein the divided data packets are of unequal size.

24. (Original) The method of claim 21 wherein the divided data packets are of equal size.

25. (Original) The method of claim 20 wherein the data packets destined for the phone have a higher priority than the data packets not destined for the phone.

26. (Original) The method of claim 25 wherein the higher priority data packets destined for the phone are processed before the data packets not destined for the phone.

27. (Original) The method of claim 20 wherein each data packet destined for the phone and each data packet not destined for the phone is assigned a priority corresponding to the order in which the data packet is processed.

28. (Original) The method of claim 20 wherein the communications network comprises one of a frame relay network, Asynchronous Transfer Mode network, and Internet Protocol network.

29. (Original) The method of claim 20 wherein the communications network adheres to Ethernet protocols.

30. (Original) The method of claim 20 wherein the step of receiving is performed by an Ethernet transceiver.

31. (Currently Amended) A method for processing data packets exchanged over a packet network comprising the steps of:  
receiving data packets from a communications network;

separating the data packets from the communications network into data packets destined for a phone and data packets not destined for the phone and, instead, are destined for a plurality of data processing devices interconnected with the packet network through the phone;

assigning a first priority level to the voice packets, a second priority level to data packets from a first data processing device of the plurality of data processing devices and a third priority level to data packets from a second data processing device of the plurality of data processing devices where the first, second and third priority levels are all different;

determining whether the data packets not destined for the phone need to be divided into smaller data packets not destined for the phone, dividing the data packets not destined for the phone into divided data packets not destined for the phone if determined to be needed and interspersing the divided data packets not destined for the phone among the data packets destined for the phone; and

sending the data packets not destined for the phone including the smaller data packets if divided, to a the first and second data processing device based upon the respective priorities of the voice packets and data packets.

32. (Original) The method of claim 31 wherein the data packets destined for the phone have a higher priority than data packets not destined for the phone.

33. (Original) The method of claim 31 wherein the communications network comprises a packet network including

frame relay, Asynchronous Transfer Mode, and transport over Internet Protocol.

34. (Original) The method of claim 31 wherein the communications network adheres to Ethernet protocols.

35. (Original) The method of claim 31 wherein the step of receiving is performed by an Ethernet transceiver.

36. (Currently Amended) A method for processing data packets exchanged over a packet network having data packets and voice packets comprising the steps of:

receiving data packets from a plurality of data processing devices;

assigning a first priority level to the voice packets, a second priority level to data packets associated with a first data processing device of the plurality of data processing devices and a third priority level to data packets associated with a second data processing device of the plurality of data processing devices, where the first priority level has a higher relative value than the second and third priorities and where the first, second and third priority levels are all different;

determining whether the data packets from the plurality of data processing devices need to be divided into smaller data packets from the data processing devices, dividing the data packets from the data processing devices into divided data packets from the data processing devices if determined to be needed and interspersing the divided data packets from the data processing device among the voice packets;

~~assigning a higher priority to the voice packets,~~

sending the data packets from the data processing device, including the smaller data packets from the data processing device if divided, and the voice packets to a communications network based upon the respective priorities of the voice packets and the data packets;

receiving data packets from the communications network;

separating the data packets from the communications network into voice packets and data packets not destined for a phone;

determining whether the data packets not destined for the phone need to be divided into smaller data packets not destined for the phone, dividing the data packets not destined for the phone into divided data packets not destined for the phone if determined to be needed and interspersing the divided data packets not destined for the phone among the voice packets;

~~assigning a higher priority to the voice packets;~~ and sending the data packets not destined for the phone including the smaller data packets if divided, to the data processing devices based upon the respective priorities of the data packets.

37. (Original) The method of claim 36 wherein the divided data packets are of unequal size.

38. (Currently Amended) The method of claim 36 wherein the first and second data processing devices further comprises one of the group consisting of a computer, a laptop computer, a personal digital assistant, and a cellular telephone.

39. (Original) The method of claim 36 wherein the higher priority voice packets are processed before the data packets.

40. (Original) The method of claim 36 wherein the communications network comprises one of a frame relay network, Asynchronous Transfer Mode network, and Internet Protocol network.

41. (Original) The method of claim 36 wherein the communications network adheres to Ethernet protocols.

42. (Currently Amended) The method of claim 36 wherein the step of receiving the data packets from a data processing is device performed by a first Ethernet transceiver.

43. (Original) The method of claim 36 wherein the step of sending data packets from the data processing device, including the smaller data packets from the data processing device if divided, and the voice packets to a communications network is performed by a second Ethernet transceiver.

44. (Currently Amended) A phone system for processing data packets exchanged over a packet network having data packets to and from a plurality of data processing devices and the packet network and voice packets to and from the phone system comprising:

a user interface with the ability to place and receive phone calls comprising voice packets; and

a network manager coupled to the user interface, the data processing devices and the packet network and adapted

to process voice and data packets based upon use of a first priority for the voice packets a second priority for a first data processing device of the plurality of data processing devices and a third priority for a second data processing device of the plurality of data processing devices where the first, second and third priorities are all different and whereby the network manager determines whether to divide the data packets from the plurality of data processing devices and intersperse the divided data packets among the voice packets based upon the relative priorities of the voice packets and data packets.

45. (Original) The system of claim 44 further comprising a voice interface that performs conversion between analog voice and digital voice samples.

46. (Original) The system of claim 44 further comprising a processor unit to perform voice processing, call processing, and protocol processing functions of the phone system.

47. (Original) The system of claim 44 further comprising an external interface to communicate with a peripheral device comprising one of a personal digital assistant, a cellular telephone, and a laptop computer.

48. (Currently Amended) The system of claim 44 wherein the first and second data processing device comprises one of the group consisting of a computer, a laptop computer, a personal digital assistant, and a cellular telephone.

49. (Original) The system of claim 44 wherein the network manager places a higher priority on voice packets than on data packets.

50. (Original) The system of claim 49 wherein the higher priority voice packets are processed by the network manager before the data packets.

51. (Original) The system of claim 44 wherein the network manager compares the size of data packets to a size threshold and divides data packets that are larger than the size threshold.

52. (Original) The system of claim 44 wherein the network manager divides the data packets into unequal size divided data packets.

53. (Original) The system of claim 44 wherein the network manager further comprises at least one Ethernet transceiver.

54. (Original) The system of claim 44 wherein the packet network adheres to Internet protocols.

55. (Original) The system of claim 44 wherein the network manager prioritizes data packets and voice packets into various priority levels.

56. (Currently Amended) A phone system for processing data packets exchanged over a packet network having data packets to and from a plurality of data processing devices and the

packet network and voice packets to and from the phone system comprising:

a user interface with the ability to place and receive phone calls comprising voice packets; and

a network manager coupled to the user interface, the data processing device and the packet network adapted to process voice and data packets based upon use of a first priority level for the voice packets, a second priority level for a first data processing device of the plurality of data processing devices and a third priority level for a second data processing device of the plurality of data processing devices where the first, second and third priority levels are all different and whereby the network manager determines whether to divide the data packets, intersperse the divided data packets among the voice packets, and place a higher priority on the voice packets than on the divided data packets, if determined to be needed based upon the relative priority levels of the voice and data packets.

57. (Currently Amended) A system for processing voice packets and data packets over a packet network comprising:

means for receiving data packets from a plurality of data processing devices where the voice packets have a first priority, data packets from a first data processing device of the plurality of data processing devices have a second priority and data packets from a second data processing device of the plurality of data processing devices have a third priority and where the first, second and third priorities are all different;

means for determining whether the data packets need to be divided into smaller data packets, dividing the data

packets into divided data packets if determined to be needed and interspersing the divided data packets among voice packets; and

means for sending the data packets, including the smaller data packets if divided, and the voice packets to a communications network based upon the relative priorities of the voice and data packets.

58. (Currently Amended) A system for processing data packets over a packet network comprising:

receiving data packets from a communications network; separating the data packets from the communications network into data packets destined for a phone and data packets not destined for the phone, said data packets not destined for the phone, instead, being destined to one of a plurality of data processing devices;

providing a first priority for data packets destined for the phone, a second priority for data packets destined for a first data processing device of the plurality of data processing devices and a third priority for data packets destined for a second data processing device of the plurality of data processing devices; and

assigning a higher priority to the data packets destined for the phone; and

distributing the data packets based upon the respective priorities of the data packets.

59. (Currently Amended) A system for processing data packets over a packet network comprising:

means for receiving data packets from a plurality of data processing devices;

means for determining whether the data packets from the data processing devices  need to be divided into smaller data packets from the data processing devices , dividing the data packets from the data processing devices  into divided data packets from the data processing devices  if determined to be needed and interspersing the divided data packets from the data processing devices  among voice packets;

means for assigning a higher priority to the voice packets, a first lower order of priority to data packets from the first data processing device and a second lower order of priority to data packets from the second data processing device wherein the first and second lower orders of priority are different from each other and from the higher priority;

means for sending the data packets from the data processing devices , including the smaller data packets from the data processing devices  if divided, and the voice packets to a communications network based upon the relative priorities of the voice and data packets;

means for receiving data packets from the communications network;

means for separating the data packets from the communications network into voice packets and data packets not destined for a phone;

means for determining whether the data packets not destined for the phone need to be divided into smaller data packets not destined for the phone; dividing the data packets not destined for the phone into divided data packets not destined for the phone if determined to be needed and interspersing the divided data packets not destined for the phone among the voice packets;

~~means for assigning a higher priority to the voice packets, and~~

~~means for sending the data packets destined for the phone and not destined for the phone including the smaller data packets if divided, to the phone and data processing devices based upon the relative priorities of the data packets.~~